Sky Caves of Nepal

Cliffside caves in the former kingdom of Mustang are giving up their secrets.



**By Michael Finkel**

**The skull, a human skull,** was perched atop a crumbly boulder in the remote northern reaches of the Nepalese district of Mustang. Pete Athans, the leader of an interdisciplinary team of mountaineers and archaeologists, stepped into his harness and tied himself to a rope. He scrambled up the 20-foot boulder, belayed by another climber, Ted Hesser.

When he reached the skull, he pulled on blue latex gloves to prevent his DNA from contaminating the find, and gradually removed it from the rubble. Athans was almost certainly the first person to hold this skull in 1,500 years. Dirt spilled from the eye cavities. He placed it in a padded red bag and lowered it to three scientists waiting below: Mark Aldenderfer of the University of California, Merced; Jacqueline Eng of Western Michigan University; and Mohan Singh Lama of Nepal’s Department of Archaeology.

Aldenderfer was especially excited by the presence of two molars. Teeth can provide insights into a person’s diet and health and general place of birth. Eng, a bio-archaeologist, swiftly determined that the skull likely belonged to a young adult male. She noted three healed fractures on the cranium and one on the right jaw. “Signs of violence,” she mused. “Or maybe he was kicked by a horse?”

But more intriguing than the skull itself was where it fell from. The boulder Athans scaled sat directly below a soaring cliff, tan rock streaked with bands of pink and white. Toward the top of the cliff were several small caves, painstakingly hand-dug from the brittle stone. Erosion had triggered the partial collapse of the cliff face, dislodging the skull. Now the same tantalizing question was on everyone’s mind: If a skull tumbled out, what remained up there?

**Mustang, a former kingdom** in north-central Nepal, is home to one of the world’s great archaeological mysteries. In this dusty, wind-savaged place, hidden within the Himalaya and deeply cleaved by the Kali Gandaki River—in spots, the gorge dwarfs Arizona’s Grand Canyon—there are an extraordinary number of human-built caves.

Some sit by themselves, a single open mouth on a vast corrugated face of weathered rock. Others are in groups, a grand chorus of holes, occasionally stacked eight or nine stories high, an entire vertical neighborhood. Some were dug into cliffsides, others tunneled from above. Many are thousands of years old. The total number of caves in Mustang, conservatively estimated, is 10,000.

No one knows who dug them. Or why. Or even how people climbed into them. (Ropes? Scaffolding? Carved steps? Nearly all evidence has been erased.) Seven hundred years ago, Mustang was a bustling place: a center of Buddhist scholarship and art, and possibly the easiest connection between the salt deposits of Tibet and the cities of the Indian subcontinent. Salt was then one of the world’s most valuable commodities. In Mustang’s heyday, says Charles Ramble, an anthropologist at the Sorbonne in Paris, caravans would move across the region’s rugged trails, carting loads of salt.

Later, in the 17th century, nearby kingdoms began dominating Mustang, says Ramble. An economic decline set in. Cheaper salt became available from India. The great statues and brilliantly painted mandalas in Mustang’s temples started crumbling. And soon the region was all but forgotten, lost beyond the great mountains.

Then, in the mid-1990s, archaeologists from the University of Cologne and Nepal began peeking into some of the more accessible caves. They found several dozen bodies, all at least 2,000 years old, aligned on wooden beds and decorated with copper jewelry and glass beads, products not locally manufactured, reflecting Mustang’s status as a trade thoroughfare.

Pete Athans first glimpsed the caves of Mustang while trekking in 1981. Many of the caves appear impossible to reach—you’d have to be a bird, it seems, to gain entry—and Athans, an exceptionally accomplished alpinist who has stood atop Everest seven times, was stirred by the challenge they presented. It wasn’t until 2007, however, that he secured the necessary permits. Mustang immediately became, he says, “the greatest expedition of my life.” This trip in the spring of 2011 was his eighth to the area.

During previous visits Athans and his team had made some sensational finds. In one cave they discovered a [26-foot-long mural](http://news.nationalgeographic.com/news/2009/11/photogalleries/shangri-la-cave-treasures/photo3.html) with 42 exquisitely rendered portraits of great yogis in Buddhist history. In another was a trove of [8,000 calligraphed manuscripts](http://news.nationalgeographic.com/news/2009/11/091117-shangri-la-secrets-tibet-treasures-caves.html)—a collection, most of it 600 years old, that included everything from philosophical musings to a treatise on mediating disputes.

What Athans and the scientists wanted most was a cave with items from before the era of written records to shed light on the deepest mysteries: Who first lived in the caves? Where did these people come from? What did they believe?

Most of the caves Athans had peeked into were empty, though they showed signs of domestic habitation: hearths, grain-storage bins, sleeping spaces. “You can spend your life looking in all the wrong caves,” says Aldenderfer, whose long career as an archaeologist has included no shortage of frustrating quests.

The ideal cave, he felt, would be one used as a cemetery rather than a home, with pre-Buddhist-era ceramic remains scattered below, on a cliff too high for looters to reach, in a part of Mustang where locals are comfortable with foreigners disturbing their ancestors’ bones. All this, and one additional factor. “Sometimes,” Aldenderfer admits, “you just need to get lucky.”

**The most promising site** was a cave complex near a tiny village called Samdzong, just south of the Chinese border. Athans and Aldenderfer had visited Samdzong in 2010 and found a system of funerary caves. On the first workday at the site in the spring of 2011, during a scouting hike at the base of the caves, the team’s photographer, Cory Richards, noticed the skull.

The next morning, the climbers prepared to investigate the caves above the skull find. Mustang’s cliffs are gorgeous beyond measure—the immense walls appear to be melting like so much candle wax under the intense high-elevation sun. The ridgelines have eroded into wild shapes: bony fingers supporting colossal rocky basketballs, towering tubes arrayed like an endless pipe organ. The color of the rock, shifting as the day passes, seems to encompass every shade of red and ocher and brown and gray.

But the climbing is horrible. “Pure thuggery,” says Athans. “Industrial, inelegant—the Dumpster diving of climbing.” The rock, fragile as peanut brittle, breaks off with every touch. It’s extraordinarily dangerous. A few months earlier, Lincoln Else, a videographer, was struck in the head with a rock shortly after he’d removed his helmet. His skull was fractured. He underwent emergency brain surgery in Kathmandu and survived. In 2010, Richards, a climber as well as a photographer, tumbled and broke a bone in his lower back. Like Else, he had to be evacuated from Mustang by helicopter.

To access Samdzong’s caves, Athans and Hesser, the team’s chief climbers, hiked around the back side of the cliff and reached a flat area above the caves. Here, with special permission from authorities, they hammered several long pieces of rebar into the rock and tied on a rope. Athans was going to entrust his life to this anchor. There was a discussion of what to do if the rebar started to loosen. Hesser suggested that he shout an expletive at the top of his lungs.

“That will work,” said Athans. He then calmly rappelled off the edge. A rain of dirt and rocks clattered off the dome of his helmet.

Below, on flat ground, sat Aldenderfer, his prodigious mane of silver hair corralled by a red bandanna—he hasn’t had a legitimate haircut, he says, in 20 years. Aldenderfer held a small monitor that received a wireless feed from Athans’s video camera, allowing the anthropologist to direct the search from a safe position.

Nearby, sitting cross-legged in his maroon robe, was the local lama, 72-year-old Tsewang Tashi. He lit a small juniper twig fire and filled a chalice with holy water from an old plastic Pepsi bottle. Then he chanted softly while ringing a brass bell and dipping his fingers in the water—a Buddhist protection ceremony to remove troublesome spirits that could endanger the team’s work.

Athans, dangling on the green rope, maneuvered nimbly into the smallest cave. He had to crouch to get in—it was only five feet high and roughly six feet wide and six feet deep. This cave, it was clear, was once a hidden shaft tomb, or mortuary cave, dug in the shape of a wine decanter. When it was excavated, only the very top of the shaft was visible. Bodies were lowered down the sewer-pipe-size shaft, and the hole was backfilled with rock. When the cliff face collapsed, the entire cave was exposed, creating a cross-sectional view.

A large boulder, once part of the ceiling, had landed on the cave’s floor. If there was anything in the cave, it was beneath that rock. Athans tugged at it, levering it gradually toward the cave’s mouth. Then he shouted, “Rock!” and the boulder thundered down the wall, kicking up a cloud of amber dust. Fifteen centuries or so after it was sealed, as carbon dating later proved, the cave was once again clear of debris.

**Aldenderfer divides cave use** in Mustang into three general periods. First, as long as 3,000 years ago, the caves were burial chambers. Then, around 1,000 years ago, they became primarily living quarters. Within a few centuries, the Kali Gandaki Valley—the neck in the hourglass connecting Asia’s highlands and lowlands—may have been frequently battled over. “People were scared,” Aldenderfer says. Families, placing safety over convenience, moved into the caves.

Finally, by the 1400s, most people had moved into traditional villages. The caves were still used—as meditation chambers, military lookouts, or storage units. Some caves remained homes, and even today a few families live in them. “It’s warmer in winter,” says Yandu Bista, who was born in 1959 in a Mustang cave and resided in one until 2011. “But water is difficult to haul up.”

The first thing Athans found in the closet-size chamber—later designated Tomb 5—was wood, superb dark hardwood, cut into various planks and slats and pegs. Aldenderfer and Singh Lama eventually fitted the pieces together, creating a box about three feet tall: a coffin. It was ingeniously constructed so that the sections fit through the tomb’s narrow entrance and then could easily be assembled in the main chamber.“Like Ikea before Ikea,” says Eng.

Painted on the box, in orange and white pigments, was a rudimentary but unmistakable image: a person riding a horse. “Probably his favorite horse,” Aldenderfer guessed. Later, as if to confirm the man’s status as an equine aficionado, a horse skull was found in the cave.

On the 2010 trip to Samdzong, in the two biggest caves on the cliff wall, the team had located human remains from 27 individuals, including men, women, and one child. There were bedlike or rudimentary coffins in those caves as well, but they were made of much inferior wood and far simpler construction, with no paintings.

Tomb 5, Aldenderfer theorized, was the burial plot of a high-ranking person, perhaps a local leader. The tomb, it turned out, held two bodies—an adult male and a child, maybe ten years old. The youth was a source of much speculation. “I don’t want to characterize the child as any kind of sacrifice or slave because I really don’t have a clue,” says Aldenderfer. “But a child in there does suggest a complex ritual.”

When Eng, the team’s bone sleuth, took a close look at the remains, she made a startling discovery: The bones of 76 percent of all the individuals she examined bore the unmistakable scars of knife slices. These marks, says Eng, were clearly made after death. “This wasn’t hacking and whacking,” she says. The bones were relatively whole and lacked signs of deliberate breakage and burning. “All the evidence,” Eng notes, “indicates there was no cannibalism here.”

The bones date from the third to the eighth centuries—before Buddhism came to Mustang—but the [defleshing may be related to the Buddhist practice of sky burial](http://news.nationalgeographic.com/news/2011/03/110301-himalayas-caves-defleshed-skeletons-science-nepal-mustang/). To this day, when a citizen of Mustang dies, the body may be sliced into small pieces, bones included. These are all swiftly snatched up by vultures.

In the age of the Samdzong cave burials, Aldenderfer posits, the body was stripped of flesh but the bones were still articulated—“like a Halloween skeleton,” he says. The skeleton was lowered into the tomb and folded to fit in the wooden box. “Then whoever was down there with him,” says Aldenderfer, “climbed back out.”

**Before doing so,** the ancient burial crew had made sure the corpse was regally adorned for the great beyond. As Athans hunched inside Tomb 5, sifting through dust for hour upon hour, he discovered these adornments. “It was so mesmerizing,” he says, “that I forgot to eat or drink.”

A trove of beads, the garment they’d been sewn on long disintegrated, was scooped up by Athans and placed in plastic sample bags. Singh Lama painstakingly sorted them. There were more than a thousand beads, made of glass, some as minuscule as poppy seeds, in a half dozen hues. As lab studies later showed, the beads were of various origins: some from what is now Pakistan, some from India, some from Iran.

Three iron daggers, with gracefully curved hilts and heavy blades, also emerged. Then a bamboo teacup with delicate circular handle. A copper bangle. A small bronze mirror. A copper cooking pot and a ladle and a three-legged iron pot stand. Bits of fabric. A pair of yak or cow horns. An enormous copper cauldron, roomy enough to boil a beach ball. “I’m betting that’s a chang pot,” said Aldenderfer, referring to the regional beer made of fermented barley.

Finally Athans sent down a funerary mask. It was made of gold and silver pounded together, with high relief facial features. The eyes were rimmed in red, the mouth was slightly turned down, the nose was linear; there was a hint of a beard. Pinholes outlined the edge. Likely the mask was sewn to fabric and draped over the face. The beads had been part of the mask.

Aldenderfer, normally restrained and scholarly, could not contain himself as he cradled the mask in his palms. “It’s stunning,” he marveled. “The workmanship that’s involved, the obvious wealth it represents, the colors, the delicateness—it’s the best thing ever found in Mustang. Period.”

Nearly all the items in the cave had been imported from elsewhere. Even the coffin’s wood had come from a tropical environment. How could a person from this place—today so bereft of resources that merely accumulating firewood requires hours of effort—gather such riches? Salt, most likely. Controlling a piece of the salt trade may have been the current equivalent of owning an oil pipeline.

The entire haul, from what seemed a nondescript cave, left Aldenderfer giddily struggling to place the find in historical context. “This is unique,” he said. “Spectacular. This is rewriting the region’s prehistory in a serious way.”

**Everything the team found** was left behind, in the care of Samdzong’s village leaders. Athans, as he’s done elsewhere in Mustang, also donated personal funds to endow a modest museum. “The people of Mustang should have pride in their own rich history,” he says. Only tiny sample chips and bits of bone were removed by the scientists. These will be studied in various labs—teeth go to the University of Oklahoma; metals to University College London. Paints will be separated into chemical constituents, to see which plants were used to make them. A splinter of wood, a thread of textile, a powder of tooth enamel; all will be rigorously analyzed. The process could take a decade.

That’s without any additional materials. Early Mustang, it’s thought, was ruled by powerful kings. With so many exposed caves and an unknown number of hidden crypts, far more remarkable troves may be awaiting discovery. “It could be in the next cave we visit,” says Aldenderfer. “It could be in a hundred more caves.” Indeed, as the team finished their work in Samdzong, there was one more find. Walking across the cliff top after removing the rebar anchors, Hesser came across a distinct, unnaturally round depression in the gravel. Very likely, he had stumbled upon the entrance to another shaft tomb—this one still plugged, its contents sealed within.

The team’s travel permit was set to expire; they had a long journey ahead of them. There was little choice but to let this pass by. At least for now. As ever in Mustang, the cliffs hold secrets yet to be uncovered.

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In the August issue, Michael Finkel wrote about a medicinal Tibetan fungus. This is photographer Cory Richards’s first story for the magazine.